

Notice of Allowability

Application No.

10/518,592

Examiner

Rip A. Lee

Applicant(s)

TIDOW ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to April 6, 2006.
2. ☒ The allowed claim(s) is/are 11-14 and 16-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 11-14 and 16-20 are allowed over the closest references cited below.

The present invention is drawn to mixture comprising a component which comprises 20-96 wt % of sulfur and from 4 to 80 wt % of a complexer, said component having an average primary particle size in the range of 0.05 to 20 μm , and wherein the mixture M is free-flowing and has an average particle size of from 50 μm to 4 mm. Another aspect of the invention is a vulcanizable composition comprising rubber or latex and a vulcanizing amount of mixture M. A further aspect of the invention is a process for vulcanizing rubber or latex comprising adding mixture M to the rubber or latex.

The key aspect of the invention is preparing free-flowing sulfur/complexer-containing microparticles having an average particle size in the range of from 50 μm to 4 mm, the average diameter of their primary particles being in the range of from 0.05 to 20 μm (see specification, page 5, lines 24-31 for support).

Representative art includes, *inter alia*: (i) Schroeder *et al.* (WO 99/04634; equivalent document U.S. 6,410,042); discloses a mixture comprising 80 wt % of sulfur and 19 wt % of sodium ligninsulfonate having a particle distribution of 40 % of less than 2 μm , (ii) Weiss *et al.* (U.S. 5,496,789); discloses a suspension of 150 mg of finely divided sulfur (distribution: 20 % < 1 μ , 50 % < 5 μ , 90 % < 10 μ) and 20 mg (11 wt %) of sodium lignin sulfonate, (iii) Lambert (FR 2,374,852); discloses particulate sulfur coated with about 20 wt % of lignin sulfonate in which the majority of particles have a particle size of 2-7 μm , and (iv) Ryan (U.S. 2,195,827); discloses a material comprising 420 pw of resin, 60 pw of sulfur and 3 pw of the the condensation product of naphthalene sulfonic acid and formaldehyde, and 70 pw of a caseinate solution; the dispersed product is then ground in a ball mill until the particle size was less than 30 μm .

None of the cited references teaches the microparticles of the instant claims in which the average particle size lies in the range of from 50 μm to 4 mm and the average diameter of their primary particles being in the range of from 0.05 to 20 μm .

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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June 15, 2006



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